

What is claimed is:

1. An integrated image detecting apparatus used in CMOS process, comprising:

an optical detecting element is operated to detect an optical variation and convert photos into charge;

5 an integrated circuit is operated to convert charge produced by the optical detecting element into electronic signal that is a different type voltage;

a correlated double sampling circuit connects to read the electronic signal of the integrated circuit output for canceling variation of the optical detecting element and of the integrated circuit; and

10 an output circuit performs the output signal of the correlated double sampling circuit and output a plurality of signals.

2. The apparatus as claim 1, wherein the optical detecting element is a photodiode adapted for both N-sub and P-sub of CMOS process.

3. The apparatus as claim 1, wherein the integrated circuit comprises an
15 operation amplifier, a reference voltage, an electric charge storing device, a CMOS switch, and an inverter of CMOS.

4. The apparatus as claim 3, wherein the operation amplifier is a single stage amplifier that consists of a NMOS or PMOS transistors, and the reference voltage is an external voltage source or a bias provided by certain circuit
20 inside, and the electric charge storing device is a capacitor, and the CMOS switch and the inverter of CMOS area plurality of NMOS or PMOS transistors.

5. The apparatus as claim 1, wherein the correlated double sampling circuit comprised an ac couple device, a CMOS switch, and a unit gain operation

amplifier.

6. The apparatus as claim 5, wherein the ac couple device is a capacitor, and the unit gain operation amplifier is a single stage amplifier that be substituted for a plurality of NMOS or PMOS transistors.

5 7. The apparatus as claim 1, wherein the output circuit comprises a sample and a hold circuit and a plurality of unit gain operation amplifiers.

8. The apparatus as claim 7, wherein the unit gain operation amplifier is a single stage amplifier that consists of NMOS or PMOS transistors.

9. The apparatus as claim 1, wherein the different type voltage of the output
10 signal for the integrated circuit further comprising:

a reset voltage operated while switch turning on inside the integrated circuit; and

a bright voltage operated while switch turning off inside the integrated circuit.

15 10. The apparatus as claim 9, wherein the switch includes a NMOS transistor turned on at high voltage and turned off at low voltage, and the switch is a PMOS transistor turned on at low voltage and turned off at high voltage, and the switch is a CMOS transistor turned on and turned off at both said high-low voltage.

20